

**TECHSPEC® 16mm FL f/4.0 Blue Series M12 Lens**



16mm FL Blue Series M12 Lens



Stock #37-182 **2 In Stock**

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**General**

Blue Series **Series:**

Fixed Focal Length Lens **Type:**

No **IR Cut Filter:**

High Performance M12 Lens **Imaging Lens Type:**

## Physical & Mechanical Properties

Fixed	Iris Option:
22.50	Length (mm):
16	Maximum Diameter (mm):
16	Outer Diameter (mm):

## Optical Properties

Horizontal Field of View @ Max Sensor Format:  
25.3°

Field of View at Max Sensor Format:  
Horizontal: 64.9mm - 25.3°  
Vertical: 48.7mm - 19.1°  
Diagonal: 81.2mm - 31.4°

Horizontal Field of View, 1/1.8" Sensor:  
64.9mm - 25.3°

Horizontal Field of View, 1/2" Sensor:  
58.0mm - 22.5°

Horizontal Field of View, 1/2.5" Sensor:  
52.5mm - 20.5°

Horizontal Field of View, 1/3" Sensor:  
43.5mm - 17.0°

Horizontal Field of View, 1/4" Sensor:  
32.6mm - 12.8°

Maximum Image Circle (mm):  
9.00

Numerical Aperture NA, Object Side:  
0.017068

Number of Elements (Groups):  
6 (6)

Wavelength Range (nm):  
400 - 700

Focal Length FL (mm):  
16.00

Working Distance (mm):  
150 - ∞

Aperture (f/#):  
f/4

Distortion (%):  
-0.039@Full Field

Back Focal Length BFL (mm):  
10.79 - 10.05

Coating Specification:  
M4 MgF<sub>2</sub> @ 588nm

Entrance Pupil Position (mm):  
7.5143

Object Space Principal Plane (mm):  
7.21

Image Space Principal Plane (mm):  
-7.04

Maximum Distortion (%):  
-0.039

Exit Pupil Position (mm):  
-6.7445

Lens Wavelength Range:  
VIS

## Sensor

Maximum Sensor Format:  
1/1.8"

Pixel Size (μm):  
1.40

## Threading & Mounting

Filter Thread:  
N/A

Mount:  
S-Mount (M12 x 0.5)

## Regulatory Compliance

Compliant

RoHS 2015:

View

Certificate of Conformance:

Compliant

Reach 247:

China

Country of Origin:

Edmund Optics India Private Limited

Imported By:

## Product Details

- Up to 1/2", S-Mount Lens
- Up to 5 MegaPixels, 1.4µm Pixel Size Sensors
- High Resolution Board Camera Lens Optimized for Close WD
- 2mm to 35mm Focal Length
- **Ruggedized Designs** Also Available

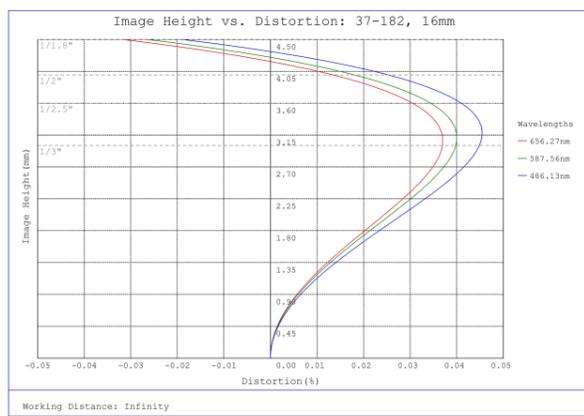
TECHSPEC® Blue Series M12 Lenses feature high resolution performance, along with the same great versatility of our **TECHSPEC® Green Series M12 Lenses**. Each lens consists of several precision glass elements mounted in a compact, aluminum housing. These lenses can connect to C-Mount cameras using the M12 x 0.5 Adapter for C-Mount Cameras (**#53-675**) or the M12 x 0.5 C-Mount Adapter with Rubber O-Ring (**#59-241**) for vibration-sensitive environments. TECHSPEC® Blue Series M12 Lenses are ideal for automotive, industrial, and medical imaging application. Prescription data is available by submitting a **Request for Prescription Form**.

**Note:** Compatible **TECHSPEC® M12 Imaging Lens Accessories** available.

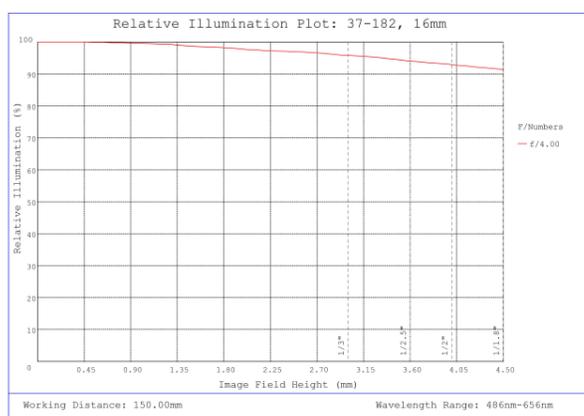
Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application needs.

- Blue Series M12 Lenses: High resolution finite conjugate designs optimized for machine vision working distances.
- **Rugged Blue Series M12 Lenses:** Stabilized ruggedization versions of our Blue Series M12 Lenses, utilizing the same optics.
- **Green Series M12 Lenses:** Finite conjugate designs optimized for machine vision working distances.
- **Red Series M12 Lenses:** Infinite conjugate designs optimized for high resolution performance out to infinity.
- **HEO Series M12 Lenses:** Harsh Environment Optics (HEO) sealed versions of our Red Series M12 Lenses.
- **Liquid Lens M12 Lenses:** Integrated liquid lens for fast electronic focus.

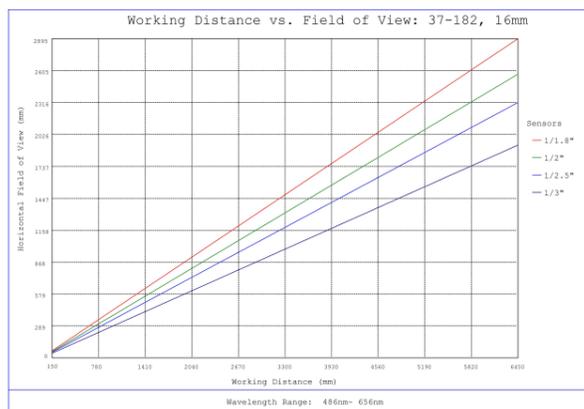
## Technical Information



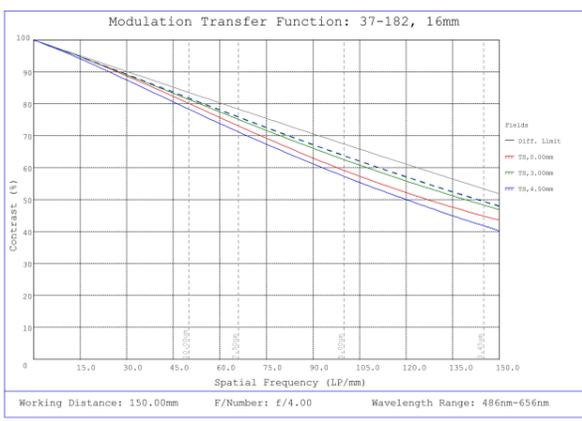
#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Distortion Plot



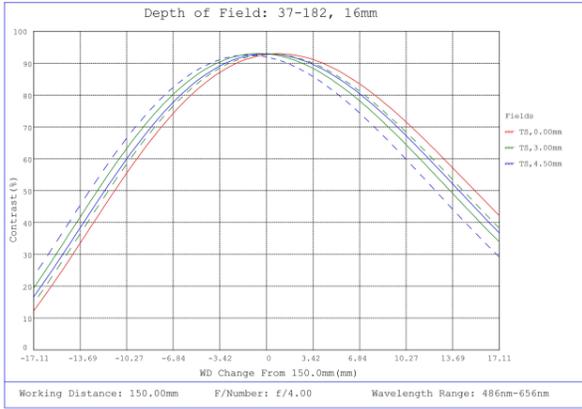
#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Relative Illumination Plot



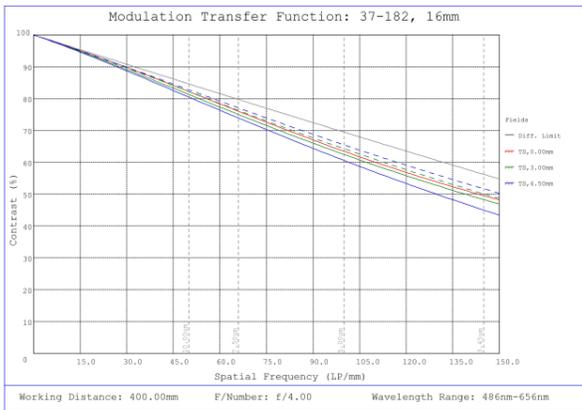
#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Working Distance versus Field of View Plot



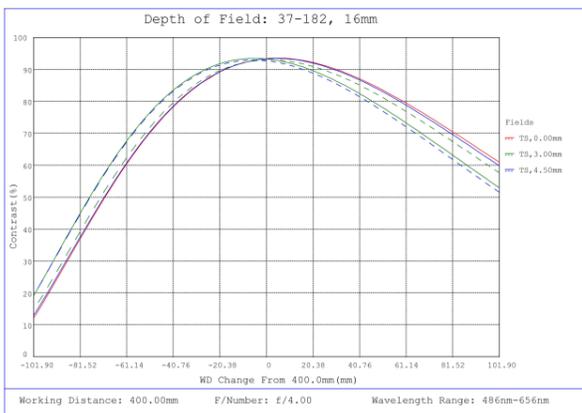
#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 150mm Working Distance, f4



#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Depth of Field Plot, 150mm Working Distance, f4



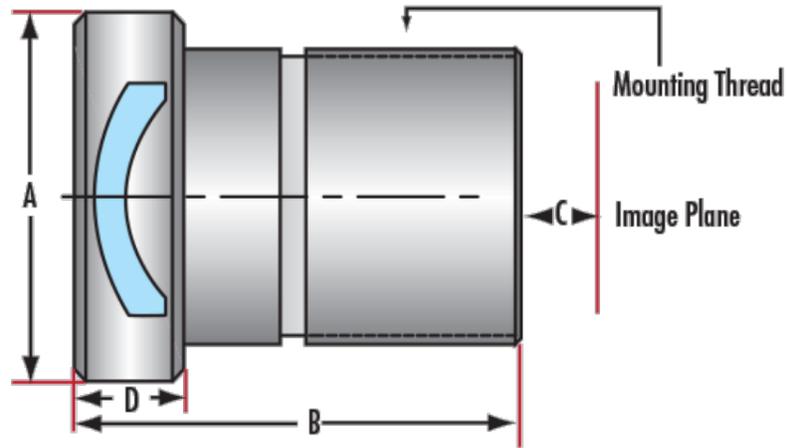
#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 400mm Working Distance, f4



#37-182, 16mm FL f/4.0 Blue Series M12 Lens, Depth of Field Plot, 400mm Working Distance, f4

Focal Length	A	B	C*	D
2.0mm	18.0mm	21.7mm	2.26mm	4.75mm
3.0mm	14.0mm	17.1mm	4.8 - 4.7mm	5.8mm
4.0mm	14.0mm	19.7mm	6.1 - 6.0mm	4.4mm
5.0mm	14.0mm	14.6mm	4.0 - 3.9mm	3.7mm
6.0mm	14.0mm	14.1mm	6.9 - 6.8mm	4.5mm
8.0mm	14.0mm	12.3mm	8.8 - 8.6mm	3.7mm
10.0mm	14.0mm	17.0mm	6.6 - 6.3mm	3.7mm

12.5mm	15.0mm	22.9mm	10.1 - 9.7mm	4.8mm
17.5mm	14.0mm	20.7mm	5.8 - 4.9mm	7.6mm
25.0mm	18.0mm	30.0mm	8.5 - 6.5mm	11.5mm
35.0mm	18.0mm	29.5mm	18.72 - 14.0mm	14.5mm



\*Specified for Optimized Working Distance of 150 - 250mm.

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